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characterized

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received

New version of patent claim 1

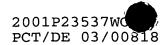
- A computer tomograph having:
- a radiation source (41) for emission of X-ray radiation (40) with a predetermined intensity and a predetermined spectrum;
- a detector unit (2), which comprises a large number of detectors (1), for verification of X-ray radiation (40), with the individual detectors (1) in 10 the detector unit (2) being designed to receive incident X-ray quanta in the X-ray radiation (40) and to detect the number of X-ray quanta in the received X-ray radiation (40) whose quantum energy exceeds a predetermined threshold value;
- 15 a transmission device (43) for transmission of the information detected by the detectors (1) in the detector unit (2) to an evaluation device (44); and
 - an evaluation device (44) which is designed to calculate a measurement result from a measurement object (42) through which the X-ray radiation (40) has passed on the basis of the information detected by the detectors (1) in the detector unit (2);

in that the individual detectors (1) in the detector unit (2) are designed to detect both the intensity and 25 the quantum energy of the individual X-ray quanta in received X-ray radiation (40), and, measurement period, to emit a spectrum which, addition to information about the number of X-ray quanta of medium quantum energy received in each 30 measurement period, and hence the intensity, information about the respective quantum contains energy in the X-ray quanta, and thus the spectrum of

X-ray

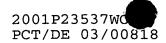
radiation;

and





in that the evaluation device (44) is also designed to calculate the measurement result from the measurement object (42) on the basis of the information detected by the detectors (1) relating to the intensity and





quantum energy of the individual X-ray quanta in the received X-ray radiation (40), taking into account the intensity and the spectrum of the X-ray radiation (40) emitted from the radiation source (41).

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New version of patent claim 7

- 7. A method for verification of X-ray radiation by means of a computer tomograph which has a detector unit (2) comprising a large number of detectors (1), having the following steps:
- detection of the number of X-ray quanta whose quantum energy exceeds a predetermined threshold value of the X-ray radiation (40) received by means of the individual detectors (1) in the detector unit (2);
- transmission of the information detected by means of the detectors (1) in the detector unit (2) to an evaluation device (44); and
- calculation of a measurement result from a 15 measurement object (42) through which the X-ray radiation (40) has passed by means of the evaluation device (44) on the basis of the information detected by the detectors (1) in the detector unit (2); characterized
- in that both the intensity and the quantum energy of the individual X-ray quanta in the X-ray radiation (40) received by means of the individual detectors (1) in the detector unit is detected,
- in that the individual detectors (1) in the detector
 unit (2) emit, for each measurement period, a spectrum
 which, in addition to information about the number of
 X-ray quanta of medium quantum energy received in each
 measurement period, and hence the intensity, also
 contains information about the respective quantum
- 30 energy of the X-ray quanta, and thus the spectrum of the received X-ray radiation, and
 - in that the measurement result from the measurement object (42) is calculated by means of the evaluation device (44) on the basis of the information detected by
- 35 the detectors (1) relating to the intensity and quantum energy of the individual X-ray quanta in the received



X-ray radiation (40), taking into account the intensity and the spectrum of the X-ray radiation (40) emitted from a radiation source (41).